PRELIMINARY STUDIES OF BROWN MARSH IN A CHENIER PLAIN, *SPARTINA PATENS* MARSH

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Rapid dieback of *Spartina alterniflora* Loisel in the rapidly subsiding Mississippi River Deltaic Plain in southeastern Louisiana garnered much attention, but our study sites are dominated by *Spartina patens* (Aiton.) Muhl in the more stable Chenier Plain, which lies on the coast from central Louisiana to Galveston, Texas. Between March and May 1999, Foret noted total dieback at 3 of 6 sites at Rockefeller Wildlife Refuge. Michot estimated via aerial survey that ~30% of unmanaged marsh at the

refuge was brown in August 2000. In October 2000, Melancon and Nyman visited Foret's sites and observed lower salinity (28 ppt vs. 31 ppt) and higher pH (6.0 vs. 5.2) associated with healthy sites. Melancon and Nyman found that 22% of a 6-km transect was dead *S. patens*; all *S. alterniflora* observed was healthy. Some seed-borne species were invading the dead *S. patens* patch, but invasion appeared limited by seed availability. Burcham and Schmidhauser isolated more fungal types from brown *S. alterniflora* plants than from green *S. alterniflora* plants and observed more rapid fungal growth from brown spots than from green portions of browning leaves. Our data show that dieback can be as severe in *S. patens* marsh, which is twice as common as *S. alterniflora* in coastal Louisiana. We plan to test if soil conditions likely to have occurred during the recent drought (high salinity, sulfides, and acidity) increased plant susceptibility to fungal infection.